SECTION 2.0 – DESCRIPTION OF THE PROPOSED PROJECT

2.1 PROJECT BACKGROUND

2.1.1 Wharf History

In February 1973, Urich Oil Company filed an application with the city of Martinez to request annexation and zoning of a 240-acre parcel of land fronting Suisun Bay on the north side of Waterfront Road, east of Interstate 680. The parcel was proposed for a petroleum storage and distribution facility including wharf development. The CSLC assumed lead agency responsibility for preparation of the EIR and adopted the completed EIR (EIR 98) in May 1973. The terminal and facility has been in operation since 1974. In 1978, Urich proposed a "mini" refinery in an application to the city and an EIR was completed. A 60-acre site for the refinery was graded, but the refinery was never built.

The CSLC originally leased the parcel, as PRC 4769.1 to Urich Oil in 1973. The lease has been amended several times by mutual consent of the CSLC and as ownership has changed. Wickland Oil Company purchased the site and accepted assignment of the lease from Martinez Terminals Limited in August 1991, and assigned its interest to Shore Terminals in November 1998. Shore Terminals has notified the CSLC of its intent to exercise its option to renew its lease for a period that would extend their operations to 2018.

2.1.2 SLC Lease Boundary and Regulatory Boundary Areas

The study area for this EIR has been analyzed in three levels of detail. The detailed study area, shown in Figure 2.1-1, is from the Interstate 80 (I-80) bridge to the western edge of the legally defined Delta, just west of Pittsburgh, encompassing Carquinez Strait and Suisun Bay. That area includes the marine terminal and areas to the east and west most susceptible to oil spills. Since vessels transit within the San Francisco Bay, the area from the Golden Gate to the entrance of Carquinez Strait is the second level of detail, utilizing existing data and referencing from other environmental documentation. The last and least detailed area examined is the outer coast of California along which vessels transit enroute to/from foreign countries and Alaska and other West Coast ports.

Information from previous relevant documents have been used as appropriate, including the Unocal Marine Terminal EIR prepared for the CSLC (Chambers Group 1994). Information from this EIR pertinent to oil spill modeling have been reviewed for applicability to the Shore Marine Terminal project and have been found to still be valid for use in this EIR. The types of impacts that could occur from vessels transiting to/from the Shore terminal in the Bay and along the outer coast have remained similar to the 1994 analysis. Other resource information referenced have been reviewed for the age of data, validity to the current project, and where appropriate have been used in this EIR.

Figure 2.1-1 Study Area

2.2 PROPOSED PROJECT

2.2.1 Project Action

Shore Terminals, LLC (Shore Terminals) is an independent, privately owned transshipper of crude oil and petroleum products. Shore Terminals operates the marine terminal and storage facilities in an industrial area of the city of Martinez east of Interstate 680 (see Figure 1.1-2). Shore Terminals owns 217 acres, of which the upland storage facilities occupy 70 acres of private land, with approximately 150 acres remaining vacant.

The marine terminal occupies 5.04 acres of sovereign land leased from the California State Lands Commission (CSLC). The Shore Terminals upland property contains storage tanks, a truck loading rack, inactive rail spur, pumps and associated pipelines, vapor collection and combustion systems and an office building. The wharf is a single-vessel docking facility with associated pumps, pipelines, electrical utilities and other mechanical equipment. Cargo pumps for vessel unloading are located in the upland portion of the facility, about 1 mile from the wharf. The layout for the upland facility in relation to the marine terminal is shown in Figure 2.2-1.

The lease the former owner (Wickland) accepted had been for an initial term of 25 years with provisions for two optional renewals for 10 years each. Wickland assigned its interest to Shore Terminals in November 1998. Shore Terminals has applied to the CSLC to exercise its option to renew its lease for an additional 20 year period. Since the previous lease term ended in 1998, the new lease, if granted by the CSLC, would allow Shore Terminals to continue current operations until 2018. This EIR examines the environmental impacts associated with operation of the marine terminal under the proposed new lease that would allow Shore Terminals to continue operating its marine terminal.

2.2.2 Physical Description of Marine Terminal

Pier Configuration and Berthing Capacities

The Shore Terminals wharf is located in the northeast portion of the Bulls Head Channel on the south side of Suisun Bay and approximately one mile east of the Benicia-Martinez Bridge. It operates as a barge and tanker loading/unloading facility, 24 hours a day, 365 days per year.

Figure 2.2-1 Shore Marine Terminals Facility Layout

Figures 2.2-2 through 2.2-4 show the Shore terminal. The marine terminal consists of a 40-foot wide by 100-foot long concrete loading platform supported by prestressed concrete piles. There is a primary and secondary breasting dolphin and one mooring dolphin on either side of the loading platform as shown in Figures 2.2-2 and 2.2-3. The breasting dolphins are used to carry the lateral load during vessel impact, transferred through an energy-absorbing fendering system. The wharf lies parallel to Bulls Head Channel running approximately east and west. The total length of the wharf from the west to the east mooring dolphins is 956 feet. The wharf is connected to land by a 1,700-foot-long elevated wooden trestle that carries an 11-foot-wide roadway and a pipe rack (Figure 2.2-4).

The corners of the wharf and the breasting dolphins have 100-ton bollards. The mooring dolphin has double 100-ton quick release hooks with 3,000-pound capacity electric capstans and slide plates (Shore Terminals, LLC. 1998). The wharf and breasting dolphins have fenders. Containment booms are located on each end of the breasting dolphins.

The wharf is a single berth dock, i.e., accommodating one vessel at a time. Historically the wharf has handled vessels with displacements up to 106,000 dead weight tons (DWT). The most recent Coast Guard approved Operations Manual (Shore Terminals, LLC. 1998) limits present wharf usage to vessels up to 950 feet in length and displacing up to 150,000 DWT. This tonnage was confirmed by an engineering study completed in 1994 that determined that the design of the wharf would accommodate vessels up to 150,000 DWT (GKO Messinger & Associates 1994 (May)).

The north side of the wharf has been dredged to maintain a minimum draft of minus 38-feet mean lower low water (MLLW). Historically dredging of approximately 6,000 cubic yards of sediment approximately every three years has maintained this depth.

Loading Arms, Hoses, and Pier Pipelines

There are three hydraulically operated loading/unloading arms located on the wharf. Two 16-inch all steel arms load or unload vessels. One of the 16-inch arms provides “dark service” (crude oil or fuel oil) with connections to shore tanks through two insulated pipelines, one 30-inch and one 12-inch. The second 16-inch arm provides “clean product” service (gasoline, diesel, oxygenates), with connections to shore tanks through two 12-inch lines. The arms use a common 40-gallon-per-minute pump to empty the arms before uncoupling from the ship. The third hydraulically operated loading arm is not currently in use due to low customer demand, though it is permitted to handle both loading and unloading of clean products, and may be returned to service as demand dictates. Each arm has a vacuum breaker valve and tight seal shut-off valve. All three arms are routinely tested.

Figure 2.2-2 Shore Terminals Wharf and Trestle Layout

Figure 2.2-3 Shore Terminals Wharf Detail

SHORE TERMINALS
TRESTLE AND PIPE RACK-
LOOKING SOUTH
Figure 2.2-4

A 10-inch marine vapor hose is used to collect and recover vapors displaced during vessel loading operations. The displaced vapors are transported through a 12-inch vapor recovery line to a thermal oxidizer located onshore. The oxidizer is used during loading operations with crude oil, gasoline and other products with highly volatile vapors. It is not required during off-loading operations or loading operations of non-volatile products.

There were originally five product pipelines constructed for the wharf in 1973. When Shore Terminals purchased the facility in 1998, the wharf had four product pipelines serving storage tanks on the upland parcel. In 1992, Wickland converted one of the original five cargo pipelines into a vapor collection pipeline per BAAQMD regulations. Wickland had proposed to replace the converted product line with a new 12-inch pipeline in the future. The construction and operational impacts for that proposed new line were analyzed in the 1994 EIR prepared by the city of Martinez for the Wickland Marine Terminal Expansion. This 12-inch pipeline proposed in 1994 has never been constructed.

The Shore Terminals pipelines run on a 6,000-foot low pipe rack along the west side of the wharf access road. Of this total, the pipe rack runs 1,300 feet over open water on the wharf itself, 500 feet over open marshlands along Suisun Bay, and the remainder rests in a graded area at the edge of the marsh. The rack carries one 30-inch product line, one 12-inch dark product line, two 12-inch clean product lines, a 12-inch vapor recovery line, and necessary water and electrical connections for the wharf.

All pipelines from the wharf to the tank farm are above-ground. These lines are set on pipe racks, squat "H" frame steel supports located every 30 feet or so along the pipeline route, or on "sleepers", concrete bars set on the ground like railroad ties. Above-ground pipelines are inspected regularly and are painted for corrosion protection.

Another pipeline from the upland facility runs east, across Pacheco Slough, to the Kinder Morgan common carrier Concord Station for approximately 3 miles and would remain in service regardless of the action taken by CSLC on the Shore marine terminal. Additional information on this line is included in Section 2.4.2, in the discussion of pipeline alternatives.

Stormwater Management, Drip and Recovered Oil Collection

A six-inch high curb surrounds the wharf deck. The deck drains into a 25-barrel capacity sump. All drips and discharges on the wharf drain into this collection system that engages automatically by a level control switch to avoid overflows. The sump pumps the contents through a two-inch oil slop line at a rate of 35 gallons-per-minute to an onshore oil-water separator. At the separator, oil is pumped to a transmix tank. Water in the amount of less than 3,000 gallons per year is released to a surface impoundment or trucked from the facility. The facility is not required to have leak monitoring devices for the sump.

This is primarily a stormwater collection sump, though it can also serve to contain a product discharge. The sump is normally empty, but does collect flush down water and/or stormwater after rainfall. The sump is open to visual inspection, which is done daily by the wharf technician. During periods of rainfall, the sump is inspected frequently to ensure the float valve is operating properly. The Terminal is manned 24 hours per day, which makes this a viable procedure to avoid overfilling the sump.

Should the float valve fail, the technician would observe a rise in the level of the sump during his inspection, and the manual switch would be activated. Should the manual switch also fail, a vacuum truck would be used to empty the sump.

The float valve is designed to activate when the sump contains approximately two feet, or 300 gallons, of impacted water. Should the switch fail to activate, the sump still has 150 percent additional capacity. In the worst case, the sump would overflow into the concrete curb containment system that surrounds the wharf.

There are no permanent facilities to receive slops from the vessels. The terminal facility is U.S. Coast Guard (USCG) certified as an oily waste reception facility to accept oily waste and oily ballast from vessels berthing the terminal wharf (USCG's "Certificate of Adequacy" dated December 1999, expires December 2004) as required by the federal regulation No. 33 CFR 158. Tank trucks come to the wharf to suction the oily waste and oily ballast for removal and offsite treatment. Shore Terminals is not responsible for the actions of the contracted waste haulers.

Six low-point drain pots connect to the 12-inch marine vapor transfer pipeline to collect condensate accumulations for disposal to the slops handling system. Manually operated nitrogen gas provides the pressure needed to flush the condensate into the slop handling system.

Spill controls are further addressed in the Oil Spill Contingency Plan for the facility and are presented below in Section 2.2.5, Oil Spill Response Capability.

Ballast Water Discharge Controls

The terminal has no facilities to collect or treat ballast water. As stated above, the terminal is USCG certified as an oily waste reception facility. Oily ballast from vessels is collected via tank trucks that suction the oily waste and oily ballast for removal and offsite treatment. Vessels are required to meet the federal and state ballast water regulations presented below.

A ship carrying little or no cargo rides high in the water, having less draft than a loaded ship. Ballast water intake allows a ship to ride lower in the water, thus increasing stability and making the vessel less vulnerable to waves and winds, less vulnerable to the bow being slammed when riding over high waves, and less potential for the propeller to raise out of the water. Ballast water is also loaded or discharged to adjust a ship's trim, improve maneuverability, increase propulsion efficiency, reduce hull stress, raise the ship to pass over shallow areas (reduce draft), and lower the ship to get under bridges or cranes (lower air draft). Ballast water enters a ship through intakes located below the waterline. Depending on the level of the tank relative to the water surface, water may be taken in or discharged either by pumping or by gravitational flow. Ballast water is generally carried in several different compartments on board ship, often in tanks dedicated to that purpose (referred to as "segregated ballast water"). Some tankers carry ballast water in their cargo holds which is referred to as "nonsegregated ballast water", since it is mixed with the contaminants or remnants of the material that was last in that cargo hold. Ships exchanging water from other areas may introduce nonindigenous aquatic species (NAS) that can invade and possibly harm ecosystems.

Shore terminal-bound vessels must comply with the California Ballast Water Management for Control of Nonindigenous Species Act of 1999 and California Public Resources Code sections 71 203 to 71 207 that specify ballast water management practices. Several ballast water management practices for ballast water carried into waters of the State from areas outside the exclusive economic zone (EEZ) are allowed:

1. Exchange ballast water outside the EEZ, from an area not less than 200 nautical miles from land (and in water at least 2,000 meters [6,560 feet or 1,093 fathoms] deep), before entering waters of the state.
2. Retain the ballast water onboard the vessel.
3. Use an alternative environmentally sound method of ballast water management that has been approved by the CSLC before the vessel begins the voyage, and that is at least as effective as ballast water exchange in removing or killing NAS
4. Discharge ballast water to an approved reception facility.
5. Under extraordinary conditions, conduct a ballast water exchange within an area agreed to by the CSLC at the time of the request.

Vessels are also required to minimize the uptake and the release of NAS as follows:

1. Avoid the discharge or uptake of ballast water in areas within or that may directly affect marine sanctuaries, marine preserves, marine parks, or coral reefs.
2. Minimize or avoid uptake of ballast water in all of the following areas and circumstances:
    a. Areas known to have infestations or populations of harmful organisms and pathogens.
    b. Areas near a sewage outfall.
    c. Areas near dredging operations.
    d. Areas where tidal flushing is known to be poor, or times when a tidal stream is known to be more turbid.
    e. In darkness when bottom-dwelling organisms may rise up in the water column.
    f. Where propellers may stir up the sediment.

Vapor Control System

A Vapor Control System (VCS) captures hydrocarbon emissions from ships loading at the terminal. Crude oil or gasoline (diesel vapors are not significant and are not regulated) pumped from the terminal to a ship displaces the vapor in the ship's cargo compartment. The collected vapor is burned in the terminal's thermal oxidizer located approximately 250 feet north of the trestle in the upland facilities. A 10-inch vapor hose is used to collect the vapor from the ship's cargo compartments. The hose is lifted into position with the ship's crane.

The system, installed in 1991 and updated in 1993, complies with USCG regulations 33 CFR 154 for VCS operations and with Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 44 (Organic Compounds, Marine Vessel Loading Terminals) that limits hydrocarbon emissions to the atmosphere from marine vessels. In the absence of vapor controls, hydrocarbon vapors escape from the cargo compartment when they are displaced during liquid product loading. The VCS also meets CSLC's Structural Requirements for VCSs at Marine Terminals (California Code of Regulations (CCR) Title 2, Division 3, Chapter 1, Article 5.4).

The dock operator panel, located in the wharf office, provides monitoring and control of the VCS. The panel indicators include startup/shutdown, status of pilot lights for the marine vapor control and nitrogen purge systems, automatic shutdown with audible and visual alarms for high and low vapor pressures, oxygen content, flame detection, seals, propane supply, high-level drain alarms, ship overfill, and thermal oxidizer shutdown.

Two in-line oxygen analyzers on the 12-inch marine vapor recovery line monitor oxygen concentration to ensure that the vapor composition is at least 180 percent above the Upper Explosive Limit (UEL). Whenever the composition drops below this value, the technician on duty adds natural gas to the marine vapor. An alarm signals if the vapor composition drops below 170 percent of the UEL and automatically shuts down if the level drops below 150 percent of UEL.

Pressure control valves keep the pressure in the ship's storage compartment within 80 percent of the ship's pressure and vacuum relief settings. An alarm automatically activates if the compartment pressure goes outside the allowable range. The VCS shuts down and loading is stopped if the pressure exceeds 2 psig or 1 psi vacuum. Vapor flow is blown from the vapor hose through the 12-inch vapor line and is controlled automatically by valves that maintain a constant flow rate. An air-cooled heat exchanger prevents the blower discharge temperature from exceeding 220 degrees F. A high temperature switch will activate an alarm if the blower discharge reaches 230 degrees F and a switch will automatically shut down the blowers if the discharge reaches 240 degrees F.

Buildings, Personnel, and Communication Systems

A small wharf office is located in the southwest corner of the main wharf platform. This office contains the wharf operations panel for the VCS, communications equipment including telephone and two-way FM radio, first aid supplies, maintenance tools, flange gaskets, clean up materials, two emergency life/toss rings, and two 20-lb. dry chemical fire extinguishers. A small building housing electrical generators used for fire pumps and circuit breakers is located on the trestle not far from the wharf.

A minimum of two personnel are required to be on duty during marine transfer operations as per Shore Terminals' Operations Manual (Shore Terminals LLC 1998). Other personnel may be on the wharf for maintenance or to assist with operations only if required. The Terminal Person-In-Charge (TPIC) supervises all ship docking and cargo transfer operations. In addition, that person shall report emergencies and oil spills. The other technician is designated the Terminal Technician, whose duty is to handle all other operating requirements in the facility as well as control landside tankage and piping systems in support of a marine cargo transfer. In addition, Shore Terminals requires that at least one crewman be aboard every tank vessel at all times while it is moored at the berth. This person is the designated Vessel Person-In-Charge (VPIC).

A portable radio is placed aboard the berthed vessel for continuous communication between the VPIC and the TPIC. All radios must be intrinsically safe against explosion. If radio contact cannot be made with either the VPIC or TPIC, the party attempting to

activate radio communications can signal the other using a canister air horn on the vessel or the emergency horn located in the wharf's control room. If radio access is not made, the VPIC and TPIC are required to proceed to the gangway to implement voice exchange and/or hand signals until radio communication is restored. In addition, there are two telephones with direct connections to the wharf office and outside lines.

Security

Shore Terminals is required to comply with Section 2430 of the CCR Title 2, Division 3, Chapter 1, Article 5.1 outlining a physical security program for marine terminals. Only authorized personnel are allowed access to the wharf, accessible only through the Shore Terminals' upland property. Personnel entering the property must sign in with the main office and wear a Shore Terminals Facility badge. During the pre-transfer conference, vessels must provide crew lists to wharf operations personnel which are then distributed to the main office. A vessel's personnel are cleared into the upland property and then to the outside of the property using those crew lists. In addition, wharf operations and personnel receive notification from the main office when other people, such as vessel agents, electronics specialists, repairmen, etc., request entry to the wharf. Wharf operations personnel confirm with the ship if the people requesting entry are authorized for ship access prior to allowing them entry into the upland facility and the wharf.

Only Shore Terminals company vehicles and other vehicles pre-authorized by wharf personnel are allowed. Company vehicles are used for routine operations and maintenance activities. Pedestrians do not have access to the wharf.

Exterior lighting is provided at the wharf to allow for nighttime operations. Lighting is provided by permanent fixtures between sunset and sunrise, and during times of reduced visibility.

The wharf cannot be accessed from adjacent public shore areas. Physical security is controlled by fencing along the facility perimeter.

Storage and Transshipping Facilities (the Upland Facility)

Shore Terminals owns none of the product that is transshipped through this facility, but warehouses for customers to store and transport petroleum to and from the site. The primary service area for this facility is the San Francisco Bay-Sacramento region.

The upland area consists of storage tanks, an unused railroad spur, a truck rack, VCS and pumps and pipelines connecting these facilities. Vehicular access to the site is from Waterfront Road, which runs along the southern property boundary, and Southern Pacific Railroad (SPRR) tracks run parallel between Waterfront Road and the Project property. The facility operates 24 hours per day, 365 days per year, and employs a total of eight technicians, one supervisor, and five office staff.

As currently operated, the upland facility primarily receives and distributes petroleum products by marine vessels and land-based pipelines. There has been no rail traffic over the lines serving the facilities for many years. In fact, since its original construction, the railspur may never have been used since there are no associated offloading facilities. A minimal number of trucks deliver materials to the facility. Historically these have included blending components, oxygenates and other additives, and recently diesel dye for injection into trucks loading at the truck rack. During the last two years (2001 and 2002) there have been 1,851 and 1,360 trucks, respectively, that have loaded diesel at the truck rack for delivery to local users, primarily agricultural uses.

Additional information on common carrier pipelines is presented in Section 2.4, Alternatives.

2.2.3 Operational Procedures

Inspection and Testing Prior to a Ship's Arrival

The TPIC supervises all ship mooring and transfer operations, including inspection and testing of the terminal's condition prior to a ship's arrival. Information on operating procedures is detailed in the Shore Terminals' Marine Terminal Operations Manual, updated in 1998. As per the manual 30-items are required to be checked before the arrival of every vessel, as follows:

- Inspect and test the fire water supply pump, check the condition of portable fire extinguishers and water supply monitors;
- Check that all equipment including life vests, hard hats, tools, gaskets, gauging equipment, and sampling equipment are available, and that the emergency boom is in its proper location and is in good condition;
- Check to assure electrical power is in working order;
- Test capstans and winches, and check and test sump piping and controls;
- Check all drain pots of the marine vapor recovery line and marine vapor arm, and check the drain leg and stand pipe;
- Verify operation of dock panel controls;
- Check and calibrate oxygen analyzers;
- Inspect and test loading arms for operation and damage, and pumps and valves for proper positioning;
- Check to assure all required documents are available;
- Shut down any work involving cutting, burning, or other hot work;
- Confirm with shore technician that tanks, pumps, and valves are aligned and that the terminal is ready to transfer cargo;

- Confirm that shore personnel test marine vapor blowers and operation of the control panel and blower shutdown panels, and verify operation of the propane system;
- Select and verify setpoints of pressure switches, valves, and vacuum relief valves for the VCS, and oxygen alarm setpoints;
- Assure that any other traffic at the wharf is stopped; and
- Notify the ship that the terminal is ready for docking.

Mooring Procedures

Ships are moored to allow for no drift, with the center of the ship's manifold directly opposite the loading arms. A minimum of 14 mooring lines is used. Ship crews are responsible for positioning the vessel and tensioning mooring lines and cables. High tidal currents at the Shore terminal result in the requirement that vessels be tightly breasted.

Once the vessel is moored, the TPIC provides a portable radio to the ship's VPIC and tests it to assure it is in working order. The TPIC tests and verifies operation of the over-fill control panel alarm and automatic shutdown system.

A pre-transfer conference with the ship's VPIC, which may be the vessel's Captain or First Officer, is held and the Declaration of Inspection is completed and signed in accordance with 33 CFR 156.120 and CFR 156.150. A clear understanding of the cargo transfer orders are reviewed by the TPIC, including quantity and product type, and transfer rates. Pumping rates to or from the wharf range from 3,500 to 25,000 barrels per hour (bph).

A loading arm hydraulic control panel is located on the east-end of the wharf platform with controls consisting of an arm selector and levers that control the up/down, arm extension/retraction, and side-to-side movements. Even though the ship is moored to minimize drift, the wharf loading/unloading arms can tolerate ten-foot drifts from the base centerline of the arm in either direction or parallel to the wharf. The TPIC coordinates positioning of the vessel to maximize allowable movement by positioning its manifold centered directly opposite the arm that will be used for transfer.

The vessel's personnel are required to pull the blind flange off the loading arm connections once these are on the ship and only over an approved containment or drip pan. The vessel personnel then bolt the arm to the ship's manifold, using a new gasket for each connection.

Oil/Product Transfer Procedures

Cargo from the ship is pumped by the ship, while cargo to the ship is pumped by shoreside pumps. With confirmation between the TPIC and the shore technician that piping, valves, pumps, and tankage are aligned, the transfer procedure can commence.

The TPIC and VPIC agree when to start transfers via the portable radios. For terminal to ship transfers, the marine vapor blower(s) are started, as well as the onshore thermal oxidizer unit.

Pumping begins at a low rate and the wharf technician is required to observe pump discharge and marine vapor recovery line pressures. Uninterrupted radio communication is required to be maintained during the entire process between the TPIC, the VPIC and the terminal technician onshore. Operating pressure of the marine VCS is maintained and product flow and proper operation of the system is confirmed, including visually looking for piping leaks. Once proper operations are confirmed, the loading rates are gradually increased. The onshore terminal technician starts additional vapor blowers as needed to maintain correct VCS pressure. The TPIC watches for any changes in pressure that could result in leaks or improper valve or pump operation or conditions that could trigger an automatic VCS shutdown.

At least once per hour, the TPIC and terminal technician are required to check connections and pipes for drips, leaks and spills, the motor control center located in the small building on the trestle housing the generators and circuit breakers for abnormal conditions, shore tank levels, and mooring conditions. The TPIC is also required to frequently check with the terminal technician on operation of the oxidizer unit and vapor blowers to ensure and verify their proper operation. The TPIC also samples product each hour or as directed and logs the results.

As the transfer nears completion the loading rate is reduced. At completion, the pumps are shutdown with a remote shutdown switch, the dock valves are closed, and the VCS is shutdown by the TPIC.

The loading arm vent ball valve is opened and the outboard end of the arm is allowed to drain to the ship. The pumpout pump empties the inboard end of the arm.

Vessel personnel disconnect and blind off the loading arm while it is still on the vessel and over the vessel's drip pan. The blind is bolted and the technician confirms that the gasket is inplace. Confirmation between the TPIC and terminal technician is conducted to assure that all shore valves and tanks are closed. The loading arms are returned to stored positions on the dock and secured.

Final paperwork and copies of the Declaration of Inspection are completed. The radio is retrieved from the vessel and the vessel can be unmoored. Final duties of the TPIC include washdown of the dock area, checking to assure that the sump is properly pumped out, putting away tools, taking samples to the sample storage building in the terminal, and delivering completed logs, forms, and paperwork to the main office.

Inspection Programs

Facility inspections are performed by the USCG, the BAAQMD, the State Fire Marshall, the CSLC and Shore Terminals. The BAAQMD has the authority to issue Notices of Violation as well as take more severe enforcement if warranted. The Fire Marshall's

jurisdiction ends at the shore block valves. The USCG and CSLC have jurisdiction over wharf operations. The Marine Facilities Division (MFD) of the CSLC conducts quarterly and annual pipeline inspections, and verifies wheelcharts and gage readings that must meet state and federal standards.

In addition to reliance on agency inspections, Shore Terminals conducts its own inspections and maintenance of the facility. The Shore Terminals' marine terminal equipment inspection program consists of structural inspection of the trestle and wharf, pipeline and tanks inspections, and annual component inspections. Structural and pipeline inspections are routine components of facility operation that are conducted by contracted third party inspectors to assure operational safety and facility integrity. Pipelines are inspected every 3 years by a certified inspector for metal thickness measurements. The last inspection was performed in July 2003 by Powers Inspection and Engineering, a certified American Petroleum Institute (API) inspection company. Pipeline and storage tank inspections are per API Guidelines 650 (pipelines) and 653 (tanks). Per the API guidelines, the rate of metal corrosion is determined. The rate is used to determine: (1) when the next inspection should be done, and (2) when replacement of that component may be required. Metal that has been reduced to 25 percent or less of its design thickness triggers a need for replacement. However, metal that is well above the 25 percent level is routinely replaced as well, with consideration given to the use of the pipeline such as products transferred, pressures utilized, heated or not heated, and presence of sensitive resources in the area. Underwharf inspections are conducted annually by small boat that cover timber, concrete and pipeline systems. Based on the inspections, a deficiency list is prepared with recommendations. After review, projects are written up and submitted into the company's internal Application for Expenditure project system, that is used to prioritize and fund terminal projects. A standardized environmental health and safety checklist is used for the inspection.

Emergency Shutdown System

Emergency switches for shutdown of the upland loading pumps (that pump oil to a vessel through either of the two 16-inch loading arms) are located on the wharf.

Shut off valves, some motor operated, are located on the wharf to close off the three 12-inch product lines, the 30-inch product line connected to the onshore fire pumps and tankage, and the two 16-inch loading arms. Isolation valves for all transfer lines, located onshore at the end of the trestle, are operated remotely from the wharf control room and can close to 100 percent shut off in 60 seconds.

Check valves on the wharf stop the flow of oil from the shore facility into the water if the ship breaks loose from the loading arm while pumping oil ashore. A lever arm holds the check valves open while pumping oil from shore to a vessel. This lever can be quickly released if a loading arm breaks loose.

The vapor recovery and nitrogen purge systems can be started, stopped or shutdown in an emergency by push buttons provided on the wharf operator panel located in the

personnel shelter in the southwest corner of the main platform wharf, and on the main control panel located on the vapor recovery system. Alarms at both locations signal high levels for the low point drain pots used to collect condensate. In addition, an emergency shutdown button can be accessed on the VCS blower.

Transfer operations may be suspended when any of the following conditions occur:

- breakdown or loss of communication between operator and vessel;
- oil spillage (on deck or to surrounding water);
- fire/explosion (on vessels or on Terminal);
- excessive wind that compromises safe mooring management of vessels;
- marine incidents, such as collision or impending collision, close passing vessels creating "surge" off the dock, personnel incidents on board that threaten the safe transfer of oil;
- slack mooring lines;
- significant earthquake or other natural events that compromise the safe transfer of oil; or
- vessel drifting off-spot, affecting the safe use and operation of loading arms.

2.2.4 Volumes and Types of Materials Handled

The throughput of the terminal is governed by the BAAQMD permit that covers maximum allowable emissions associated with the entire facility, both marine terminal and upland tanks. Throughput is also governed by the storage capacity of the upland tanks. Table 2.2-1 shows the throughput for the terminal, and Table 2.2-2 shows that portion attributable to vessels only for the years 1998 through 2002 in barrels per year (bpy).

Table 2.2-1
Throughput Summary for the Shore Terminals Marine Terminal
(in barrels)

Year	Terminal Receipts	Terminal Deliveries	Total Yearly Terminal Throughput
1999	23,675,063	23,511,428	47,186,491
2000	26,597,716	26,278,142	52,875,858
2001	22,788,704	22,872,728	45,661,432
2002	16,604,502	17,328,434	33,932,936

Table 2.2-2
Throughput Summary for Vessels
(in barrels)

Year	Vessel Receipts	Vessel Deliveries	Total Yearly Vessel Throughput
1999	20,663,593	5,342,674	26,006,267
2000	21,360,335	4,050,943	25,411,278
2001	19,961,246	4,070,137	24,031,383
2002	12,245,028	2,836,945	15,081,973

The terminal handles a variety of light and dark petroleum products and oxygenates as listed below:

Light Products: finished gasoline, gasoline components and blend stocks, jet fuels, diesel fuels, cutter stocks.

Dark Products: crude oils, gas oils, residual materials, condensates and other refinery or petrochemical feedstocks.

Oxygenates: While Shore maintains capability to handle oxygenates, Shore is phasing out methyl tertiary butyl ether (MTBE), does not currently transfer other oxygenates and plans no future transfers. Instead Shore is preparing for customer requests for future ethanol storage.

The Shore Terminals' Martinez Terminal serves adjacent refineries and participates in the logistical chain associated with refinery inbound and outbound shipments. This activity would not change during the proposed lease period. Inbound marine shipments of crude are expected to continue; and the development of new inland crude sources within California, such as Bakersfield, to replace marine shipments is not expected. Refinery storage needs for refined products are also expected to continue. Accordingly, Shore Terminals projects that crude and refined products will continue to be stored and handled at the terminal in approximately the same quantities and ratios as they are now.

2.2.5 Vessel Calls at Shore's Marine Terminal

Existing Conditions

Shore Terminals leases tankage to various companies who use tank vessels and pipelines to deliver crude oil and products. These commodities ship out of the facility by tank vessel, rail, truck and pipeline. The facility averages from two to four vessel calls per week. Based on demand, the number of tankers and barges can vary greatly from one year to the next as shown in Table 2.2-3.

For the purposes of the existing conditions description in this DEIR, an average of the last five years of data for tankers and barges has been used. As shown at the bottom of Table 2.2-3, a total five-year average of the combination of tankers and barges is 178 vessel calls. These numbers are used herein as the baseline condition. Existing permit conditions as they apply to pertinent sections are described in this document, such as for air quality and maintenance dredging.

Table 2.2-3
Vessels Calling on Shore Wharf, 1994-2002

Year	Tankers	Barges	Total
1994	57	57	114
1995	39	50	89
1996	59	55	114
1997	50	102	152
1998	64	44	108
1999	112	64	176
2000	127	97	224
2001	111	108	219
2002	85	79	164
Average 1998 – 2002	100	78	178

Source: California State Lands Commission, Marine Facilities Division, 2002.

While some tankers may call only once at the terminal during a year, many of the tankers make multiple calls on the terminal over the course of a year; for example, in 2001, the tanker *Sea River Galveston* made 16 calls on the wharf. Records from the Marine Exchange show that most, but not all, traffic calling at the marine terminal comes primarily from other terminals in the Bay Area. None of the tankers calling at the Shore terminal travel to or from terminals further upstream of the Bay/Delta system.

Time at dock varies per vessel type and volume of cargo: a ship with a typical cargo of 128,000 barrels (bbls) docks for approximately 24 hours; a barge with a typical cargo of 66,000 bbls docks for approximately 12 hours or less.

The tankers calling on the Shore terminal typically range in size from 27,000 DWT to 63,000 DWT. As mentioned in Section 2.2.2, the wharf handles vessels with displacements up to 150,000 DWT and up to 950 feet in length. While engineered to accommodate vessels up to 150,000 DWT, the depth of the water and bridges clearances are limiting factors for the sizes of vessels calling at the Shore terminal.

The bridge complex between Benicia and Martinez limits the size of vessels that can enter the Suisun Bay. The navigation opening of the Benicia-Martinez Highway bridge (distance between the bridge supports) is 440 feet, and the minimum clear height above mean higher high water (MHHW) is 135 feet. The Southern Pacific Railroad Bridge, adjacent to the east side of the highway bridge, has seven fixed spans and one vertical lift span located across the navigation channel. The navigation opening of the lift span

is 291 feet, but there is a 130-foot width limitation for vessels passing through the bridge complex. The minimum clear height above MHHW is 70 feet while the lift span is closed and 135 feet when it is open. Deepening Pinole Shoal had been considered in the past but was rejected due to major salt water intrusion concerns between the salty bay and the brackish delta. Thus, with no future consideration of changes to the bridges, the limitation on vessel heights will remain for vessels calling on the Shore terminal.

Future Conditions

At present, the maximum number of vessel calls the marine terminal can handle is 240, which is based on the onshore tankage capacity. Future market conditions could drive the need to change the ratio of crude/refined product storage in the existing onshore tankage, and could result in an increase in vessel calls. Transfers to/from storage are based on demand for stored crude/product by Shore Terminals clients. Increased demand would drive the need for additional storage. Given the limited footprint of the onshore site, new tank construction would be limited to an additional 2 million bbls (including 300,000 bbls of tankage now permitted for construction). Based on information provided by Shore Terminals, if onshore tankage were increased, annual vessel calls could increase to a maximum of 325 vessels during the 20-year term of the proposed lease. No modifications to the wharf are proposed, as in its current configuration, the wharf is capable of handling the additional vessels. Note: for the purposes of the impacts analysis in this EIR, a maximum of 325 vessels has been assumed.

2.2.6 Shipping Routes

Ships follow an established pattern from as far south as San Pedro, California, to as far north as the Cook Inlet in the Gulf of Alaska. All products supplied to the northwest United States and British Columbia are shipped because no product pipelines exist.

In 1992, the Western States Petroleum Association, in agreement with the California Department of Fish and Game (CDFG) and 10 oil shipping companies, adopted a voluntary agreement to maintain a minimum distance of 50 nautical miles offshore of the mainland for loaded Alaskan North Slope (ANS) crude oil tankers transiting between Alaska and California, except when faring in an approach from offshore into the Main (west) directed traffic area south of the Farallon Islands. This minimum distance does not apply to other crude oil tankers. The product tankers typically follow routes closer to shore at an average distance of approximately 15 to 20 miles.

Vessel traffic lanes are established for north, south, and west approaches to San Francisco Bay. Each approach consists of a 1-mile-wide inbound lane, a 1-mile-wide outbound lane, and a 1-mile-wide separation zone. Approximately 16 miles west of the Golden Gate, these lanes enter a “Precautionary Area” where traffic is merged with eastbound traffic lanes through the Bar Channel toward San Francisco Bay. Additional information, including maps, is presented in Section 3.2.

Once inside the Precautionary Area, vessels use the USCG Vessel Traffic Service on Yerba Buena Island. Vessels pass through Regulated Navigational Areas (RNA) on their way to the Shore terminal. Vessels proceed through the Bay, up the Carquinez Strait and enter Bulls Head Channel along the south side of Suisun Bay. Vessels calling at the Shore terminal typically pass through the San Francisco Bay RNA, the North Ship Channel RNA, the San Pablo Strait Channel RNA, the Pinole Shoal Channel RNA before entering Carquinez Strait, and the Southern Pacific Railroad RNA in Carquinez Strait. RNAs organize traffic flow patterns to reduce vessel congestion where maneuvering room is limited; reduce meeting, crossing, and overtaking situations between large vessels in constricted channels; and limit vessel speed. Additional information, including maps of the RNAs, is included in Section 3.2.

Vessels transit San Francisco Bay along one of several traffic lanes depending on draft. These include the Deep Water Traffic Lane north of Harding Rock or the westbound/eastbound traffic lanes north/south of Alcatraz.

Most vessels bound for the Shore terminal offload some cargo either at Shell Martinez or Tesoro Amorco, both just east of I-680 so as to navigate Bullshead Channel. A small number of vessels per year bound for the Shore terminal also lighter at Anchorage No. 9 in South San Francisco Bay. These facilities are shown in Figure 2.2-5. Anchorage No. 9 can accommodate large deep draft vessels and is the only anchorage that allows lightering in the Bay due to sensitive resources near other anchorages. Lightering to reduce ship draft typically involves the transfer of petroleum liquids from a large ship to a smaller vessel prior to delivery to the Shore terminal. While such operations are typically associated with ANS crude deliveries, circumstances that require lightering operations are varied and not necessarily related to specific vessels or cargo. Lightering operations are also conducted using vapor recovery to meet emission limits specified under the BAAQMD Regulation 8, Rule 46, Marine Tank Vessel to Marine Tank Vessel Loading.

The distance is 32.1 miles from the Golden Gate to the Shore Terminals' Martinez Wharf. Vessels stop to pick up a pilot at the sea buoy, 11 miles outside the Golden Gate. From the Golden Gate to the Shore wharf the vessel can navigate at a steady speed of 8 to 12 kts. At an average speed of 10 kts, that would take approximately 3.21 hours, to reach the wharf.

2.2.7 Oil Spill Response Capability

Shore Terminals contracts for spill response services, and lists their contractor in their Oil Spill Response Plan as their Oil Spill Response Operator (OSRO) for onwater, onshore, and shallow water response. Current contractor equipment capacities in the Bay Area includes 73 boats, 64,900 feet of boom, 20 skimmers, 80,615 bbl of storage capacity, and other miscellaneous equipment. The contractor is a private company providing response capability to vessel and terminal owners. Additional information on response capability is included in Section 3.1.

Figure 2.2-5 Location Of Major Bay Area Terminals

2.3 ENVIRONMENTAL COMMITMENTS

Since the Shore marine terminal is an operating facility it is subject to existing environmental permitting and regulations of a variety of agencies. Shore Terminals compliance with these permits and regulations are discussed throughout Section 3 of this DEIR. The primary permits and regulations most specific to the Shore wharf are listed below. These as well as other local, State and federal requirements that directly or indirectly pertain to Shore Terminals are discussed in Section 3.0.

- BAAQMD Major Facility Review Permit (air quality) for wharf and upland facilities;
- Department of the Army, U.S. Corps of Engineers (Corps) Permit for maintenance dredging and disposal;
- CSLC Marine Facilities Division (MFD), USCG, and State Fire Marshall inspection requirements;
- CSLC Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) (proposed);
- CSLC and USCG regulations for an Oil Spill Response Plan and Operations Manual;
- USCG "Certificate of Adequacy" as an oily waste reception facility;
- California Department of Fish and Game (CDFG), Office of Oil Spill Prevention and Response (OSPR) regulations and guidelines for spill prevention, response planning and response capability; and,
- California Ballast Water Management for Control of Nonindigenous Species Act of 1999 and California Public Resources Code for ballast water management.

2.4 ALTERNATIVES

2.4.1 Introduction

In accordance with section 15126.6 of the CEQA, an EIR shall describe a reasonable range of alternatives to the project or to the location of the project. These alternatives should feasibly attain most of the basic objectives of the project, but should avoid or substantially lessen any of the significant effects of the project. The comparative merits of the alternatives should also be evaluated. The EIR must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. Feasible alternatives selected for analysis are described in Section 2.4.2. The selection of alternatives does not consider economic implications, but conceptual alternatives that compare the environmental impacts of the proposed project with the impacts of other alternatives. Because operation of the marine terminal is closely tied to operations at nearby refineries, alternative actions at the Shore terminal will have implications at these other facilities. The impacts of these alternatives are presented in Section 3.0 for each resource discipline. Alternatives that were considered but eliminated from further analysis are presented in Section 2.4.3.

2.4.2 Alternatives Carried Forward for Analysis

Alternatives to the Proposed Project include the No Project Alternative (no marine terminal) and consideration of the consequences resulting from no marine terminal (keeping the upland facility operational).

No Project

The CSLC could deny Shore Terminals a new lease, which would require Shore Terminals to cease operation of the marine terminal resulting in no tanker traffic. As provided by the current lease, the wharf at the marine terminal could be removed if the lease were terminated. Decommissioning and/or deconstruction of the wharf, or any other proposed reuse of the wharf would require a separate CEQA review. Since details associated with decommissioning and/or deconstruction would need to be developed if they were to occur, for the purposes of this EIR, deconstruction impacts are discussed briefly.

The Shore Terminals Martinez facility serves nearby refineries between Rodeo and Martinez, and participates in the logistical chain associated with those refiner's inbound and outbound shipments. With no marine terminal, other area marine terminals would be required to make up the difference of having no tanker traffic at Shore Terminals in order to continue to meet regional refining demands. Use of other area terminals is examined as part of the two alternatives below, which examine options for continued operation of Shore Terminals' upland facility without its associated marine terminal.

Increased Use of Existing Pipelines for Continued Operation of Upland Facility Alternative

As a consequence of the No Project Alternative, it is assumed that Shore Terminals would continue to operate its upland facility. Shore Terminals provides warehousing for local refiners to store and transport petroleum and owns none of the product that is transshipped through its facility. Common carrier, proprietary pipelines and truck service serve the upland facility. The facility has an inactive and incomplete rail spur that would need to be entirely replaced and upgraded. As currently operated, the upland facility primarily receives and distributes petroleum products by marine vessels and land-based pipelines.

Alternative methods would transport the projected volume of petroleum products to land-side storage and processing facilities via pipeline, and/or off-loading through other terminals. Continued use of the upland facility utilizing land-based pipelines is considered in this section.

Shore Terminals owns and operates three pipelines that connect their upland facilities to non-Shore Terminals' facilities.

- The 16-inch "Black Baby Pipeline" moves marine cargoes from Shore Terminals to local refineries as a supplement to their own docks and storage facilities. The pipeline serves the Valero Benicia Refinery (formerly Exxon Benicia) on the north

shore of Carquinez Strait, the Shell Company's (formerly Equilon) Martinez Refining facility east of I-680, the Tesoro Amorco Refinery and tankfarm east of I-680, and the Shell Coalinga to Avon pipeline. This four-mile pipeline moves black oils and crude oil offloaded from the Shore marine terminal to those locations. The pipeline has transferred approximately 54 million bbls during the 3-year period of 2000 to 2003 and is approximately 24 percent utilized.

The pipeline also is capable of receiving from those locations as well. Shell Martinez, Valero Benicia, and Tesoro Amorco all have wharves. Because the pipeline can be used in the reverse direction, it does provide flexibility to move black oils between these locations and Shore Terminals.

- The 12-inch "Clean Baby Pipeline", built in 1996, connecting Shore Terminals to the Shell Martinez Refinery has never been used as no lease agreements are in place. Branch lines connecting Shore Terminals and the Kinder Morgan and Valero Benicia lines have carried MTBE, gasoline and diesel, but could also carry other clean products. This is a two-directional flow pipeline. During the 3-year period from 2000 to 2002, approximately 12 million bbls were moved through the pipeline. Of this amount, approximately 3 million bbls were delivered to Shore Terminals by vessel, stored in the terminal and then transferred through the pipeline, approximately 2 million bbls were received by pipeline and shipped out by vessels, and the remaining 7 million bbls were received and transferred by pipeline. Utilization over the last three-year period has averaged about 8 percent of capacity.

- Three Tesoro-owned pipelines connect Shore Terminals to the Tesoro Avon Refinery. Each is approximately 1,800 feet in length (the refinery is located approximately 1 mile east of Shore Terminals). Shore Terminals currently transfers black oil to Tesoro through these pipelines. Deliveries to these lines are made via the Shore Terminals Baby pipeline connections. Total product shipped through these pipelines is included in the 12 million bbls above. Tesoro does not currently load clean marine cargoes at Shore Terminals. Tesoro pipeline deliveries, both clean and black, account for approximately 40 percent of the 12 million bbls above.

- The 12-inch "Concord Pipeline" connects Shore Terminals to Kinder Morgan's Concord pumping station, delivering clean products only to the Kinder Morgan Concord Pumping Station. This is a two-directional flow system. The utilization of the pipeline is approximately 25 percent.

As shown in Table 2.2-1, the Shore marine terminal throughput ranged from 34 to 53 million bpy over the past four years. This includes throughput from both vessels and pipelines. As shown in Table 2.2-2, the Shore marine terminal throughput for vessels alone ranged from 15 to 26 million bby for the same period. Thus, without vessel throughput via the marine terminal, the upland facility may handle a reduced volume via pipeline only that could range between 19 to 27 million bpy.

This alternative assumes that the Shell Refining Martinez, Valero Benicia, and Tesoro Amorco wharves have some capability of increasing transfer operations, and that the

existing pipelines have the capacity to transfer offloaded oil to Shore Terminals for temporary storage until needed by these refiners. Through agreements with these refiners to increase shipping operations combined with greater utilization of available pipeline capacity, this alternative assumes that the Shore Terminals upland facility could continue to be utilized as a temporary storage facility and could accommodate up to 74 million bpy. Since the connections for moving oil both to and from the Shore Terminals upland facility to these three refiners are already in place, no construction would be involved in utilizing these pipelines. Since Kinder Morgan does not have a marine terminal in the area, but relies on the area terminals, continued delivery of refined petroleum products from Shore Terminals is assumed for this alternative. The increased use of the three marine terminals is evaluated in the alternative analysis.

Note that this alternative is based on general assumptions and is provided to generally show the differential in environmental impacts if the Shore marine terminal were removed. A detailed technical and economic feasibility study has not been conducted, but would be necessary if this alternative were selected. Bay area refineries rely heavily on marine crude oil supply. The availability of wharf space to offload tank ships is a primary consideration, and may be a greater limitation than that of storage tankage. This has not been evaluated in detail for this conceptual alternative.

Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative

Shore Terminals also has connections to the inactive PG&E fuel oil line that could transfer crude oil both to and from Shore Terminals with possible connections to Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long Wharf to the west and extends east to the City of Pittsburg, ending near the former PG&E Pittsburg Power Plant. In 1998, an approximate 4,000-foot section of the pipeline was severed in the City of Martinez to allow for installation of two additional tracks and relocation of the Martinez Intermodal Railway Station. The severed section of the pipeline was capped, filled with a sand/cement slurry mix and retained inplace. The remaining ends of the pipeline were extended beyond the location of the new railroad tracks and capped for future reconnection. Acquisition or agreements to use this line would be required with PG&E and the California Public Utilities Commission (CPUC). This alternative assumes that use of this line would require examination of pipeline integrity, construction to reconnect the segment in the city of Martinez, and construction of connections to the marine terminals at Shore Selby, ConocoPhillips Rodeo, and the Chevron Richmond Long Wharf.

2.4.3 Alternatives Considered and Eliminated from Further Evaluation

Land-Based Transportation Alternatives for Continued Operation of Upland Facility

There is an unused rail line into the Shore Terminals marine facility, but the handling facilities, while permitted, have not been built. As shown in Table 2.2-1, Shore terminal throughput has ranged from 34 to 53 million bpy (93,150 to 145,205 barrells per day

[bpd]) over the past four years. Since the average rail car holds 700 barrels, between 133 to 207 rail cars per day would be required to make up the difference without the Shore terminal. This alternative would entail construction of handling facilities at Shore Terminals and likely at several refineries served by Shore Terminals. The major drawback of rail as an alternative, is the time and labor needed to fill barrels, load them onto rail cars and ship them from approximately one to ten miles to the refiners, unload the rail cars and unload the barrels. Although economics are not evaluated, this alternative would be of much higher cost than the alternatives of utilizing existing pipelines or slight modifications to existing pipelines.

A minimal number of trucks deliver materials to the facility. Historically these have included blending components, oxygenates and other additives, and recently diesel dye for injection during truck loading at the truck rack. During the last two years (2001 to November 2002) 1,851 and 1,360 trucks, respectively, have loaded diesel at the truck rack for delivery to local users, primarily agricultural. The number of trucks that would be required for transfer of oils to nearby refiners would exceed the capacity of the two-lane Waterfront Road that provides access to Shore Terminals. And, as above, use of trucks would be labor extensive.

Due to the time and labor involved with the use of rail and truck, and limitations on roadway capacity for trucks, land based transportation by trail and rail is considered infeasible and has been eliminated from further consideration.

New Pipelines for Continued Operation of Upland Facility

Design and construction of a new pipeline system to transfer 25 million bpy comprises an extensive and complex process. Because capacity appears to be available in existing pipelines, consideration of new pipelines was considered to be infeasible as an alternative for the Shore Terminals facility. This alternative has been eliminated from further consideration.

2.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA requires the identification of the Environmentally Superior Alternative (ESA). Thus, the No Project Alternative may be considered the least impacting of the alternatives since the Shore wharf would not be operational and pipelines are not considered. However, under the CEQA, if the ESA is the No Project Alternative, then the EIR shall identify an ESA among the other alternatives. Because there would be no need to modify existing pipelines, the Existing Pipelines for Continued Operation of the Upland Facility Alternative is slightly superior to the Modification to Existing Pipelines for Continued Operation of Upland Facility (PG&E Pipeline) Alternative.